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CLIL for young learners

Carl Edlund Anderson, Jermaine S. McDougald, Liliana Cuesta Medina

1. Introduction

The term ‘CLIL’ (Content and Language Integrated Learning) was coined in 1994 by David Marsh and Anne Maljers (among others) as an umbrella term that could encompass a wide range of situations related to “the experience of learning non-language subjects *through* a foreign language” (Marsh, 2012: 28). Perhaps, because CLIL offers a variety of approaches to teaching content and language together, it is easily confused with other kinds of bi-/multilingual education. ‘Bilingual education’ itself is a somewhat open-ended term, though perhaps most commonly describing situations in which students learn content in an additional language (L+), implying the prerequisite of gaining some functional competence in the L+ *before* commencing content study in it. The other side of the coin, also easily confused with CLIL, is *language for special/academic purposes* (LSP/LAP), implying students have *first* learned content through their first language (L1) and must *now* learn competences in an L+ suitable for communicating about that content. In contrast to either of these approaches, CLIL is not a matter of learning first one of either content or language and only then the other, but of learning both content and language simultaneously (Coyle, Hood & Marsh, 2010). This is, of course, the deceptively simple but critical difference enshrined in the original definition of CLIL (Marsh, 2012), as well as many subsequent reformulations. In this sense, CLIL is closely related (Banegas, 2012b; Tarnopolsky, 2013) to concepts such as ‘content-based instruction/learning’ or ‘CBI/CBL’ (the most familiar term in North American contexts), ‘immersion’ education (a term often associated with Canadian contexts), and ‘language across the curriculum’.

As Brown (2006: 91) notes, there are a “multitude of reasons” why children may have difficulty acquiring a second language, including complex personal, social, cultural and political factors. In response to these, the CLIL approach may offer greater and more flexible opportunities to improve language learning. Marsh (2000) argues that CLIL offers YLs more realistic and natural opportunities to learn and use an additional language in such a way that they soon forget about learning the *language* as such and focus only on learning the *content*. That said, language is a key ingredient to success in a world increasingly “interconnected by the exchange of information and knowledge” (Mehisto, Marsh & Frigols-Martín, 2008: 10). This re-emphasizes the primary importance that language

education arguably should (but does not always) have in contemporary educational practice. CLIL not only provides learners with proficiency in the ‘vehicular language’ (VL) but also with the associated content knowledge and skills needed/required for a globalized world.

This chapter considers the potential benefits and challenges of implementing CLIL for YLs in light of the existing research. It highlights the relative lack of attention that has so far been directed towards CLIL in pre-secondary levels, but suggests particular avenues that might be suitable for CLIL implementation with YLs at different stages. Nevertheless, there is a great need for targeted teacher training, both for in-service and pre-service teachers, since prior research also reveals the pitfalls of trying to implement CLIL when an educational system is insufficiently prepared for the changes of focus and attitude that it implies (and, indeed, demands).

2. Literature review

2.1 Characteristics of YLs

YLs have many different characteristics that have to be taken into account in order to have success in learning in general, but more so for language learning. All children are unique in that they have their own culture and their ways of doing things; these are often very different from those of adults. YLs must be appreciated in their own right.

Decades of research in the psychology of learning have helped provide a better understanding of how YLs perform and function in classroom settings (Pashler, McDaniel, Rohrer & Bjork, 2008; Piaget, 1952, 1973). Notably, Piaget (1952) categorized YLs into 4 developmental stages; we summarize this scheme, augmented with some more recent understandings, in Table 1.

Table 1: Piaget's stages of cognitive development

Stage	Age range	Description
Sensori-motor (Infancy & toddlerhood)	0–2	• Child learns to interact with the environment by manipulating objects (Nunan, 2011). • Linguistically: Rapid growth of vocabulary, gradual transformation to real language, from sounds to words. • Cognitive: Responds to step-by-step commands; language skills develop rapidly during this stage.
Pre-operational (Preschooler)	2–7	• Acquisition of language. • Egocentric; thinking is literal and concrete; precausal thinking (e.g. “Why does it get dark at night?”). • Linguistically: Consolidates knowledge of the grammatical system. By age 7, acquisition of target grammatical system is almost complete. • Cognitive: Animistic thinking; limited sense of time; egocentric; transductive reasoning.
Concrete-operational (School-aged child)	7–11	• Developing logical thought processes and ability to reason syllogistically; understands cause and effect. • Cognitive: Able to draw conclusions; can understand cause and effect intellectually.
Adolescence	1–15	• Abstract thought; reasoning is both inductive and deductive. • Cognitive: Propositional thinking; complex logical reasoning; Can build on past experiences; conceptualizes the invisible.

2.2 Research on CLIL and YLs

Given that the CLIL approach has been implemented principally in pre-tertiary school environments, the great majority of research on, and theory developed about, CLIL is technically connected with YLs in the sense that this term is employed by the IATEFL Young Learners and Teenagers Special Interest Group: that is, ages 3–17. However, it is also probably the case that the majority of studies on CLIL have focused on secondary-level learners (see, for example, Banegas, 2012b; Coyle, 2007; Dalton-Puffer & Smit, 2013; McDougald, 2009, as well as studies published in the *International CLIL Research Journal* and *Latin American Journal of Content and Language Integrated Learning*). Thus, there has been relatively little research on CLIL with pre-adolescent learners (corresponding to the first three of Piaget's four stages (1952), explained in Table 1).

Marsh (2012) observes that, since the mid-1990s, CLIL has expanded considerably in Europe, where “early language learning, whether at kindergarten, pre-school or primary, inevitably involved forms of CLIL” (p. 133). He notes a number of new European initiatives to implement CLIL with pre-secondary learners, though it seems there is as yet little data on

the relative success of any of these, and it seems necessary to admit that CLIL “statistics are particularly hard to obtain on kindergarten and pre-schooling” (p. 175). There have been some specific studies on CLIL with pre-secondary learners (for example, Buchholz, 2007), but again mostly in Europe, which serves to highlight the general lack of research on CLIL for YLs worldwide.

Part of the reason for this may be that knowledge about what CLIL and allied approaches really represent and how to implement them, not to mention resources to carry out quality educational research, remain thin on the ground in many regions. Even where such knowledge and resources are available, CLIL may often be understood as an approach more suitable for older children, already equipped with more advanced academic/cognitive skills as well as perhaps some competence in the vehicular language. However, it is also the case that CLIL approaches become less CLIL-like with younger children – or, put another way, educational approaches involving additional languages with younger children have long been more CLIL-like than is appreciated by many educators (Marsh, 2012). Indeed, Coyle, Hood, and Marsh (2010) emphasize that “it is often hard to distinguish CLIL from standard forms of good practice in early language learning” in which YLs’ “main focus is on the doing – be it playing, singing, drawing, building models, or other activities” (p. 17). This reflects the findings of a European Commission study (Edelenbos, Johnstone & Kubanek, 2006) on teaching additional languages to Very Young Learners (VYLs).

Thus, there is real extent to which good practice in teaching additional languages to YLs (see Bialystok, 2008; Cameron, 2001) is indeed also good CLIL practice. However, the extent to which any kind of good practice is realistically achievable in many contexts is questionable, and this perhaps sounds the strongest note of warning about CLIL – or additional language teaching in general – for YLs.

2.3 Self-regulated learning in YLs

Several studies indicate that the development of self-regulation (Carlson, Zelazo & Faja, 2013) should be fostered since early childhood. Perry, Phillips, and Dowler (2004) note that, although academic self-regulation studies have principally involved students from upper-elementary grades through university levels, the number of reports on younger learners has been growing (McClelland, Cameron, Duncan, Bowles, Acock, Miao & Pratt, 2014). Nevertheless, given that some of the most significant growth of the part the brain which is most associated with self-regulation, the pre-frontal cortex, occurs during pre-school years (McClelland *et al.*, 2014: 4) this highlights the need for more research on the development of self-regulated learning skills in this age group, as these are too often still addressed when habits and actions have already become ingrained. Joyce and Hipkins (2004) argue that, with appropriate teacher support and the use of purposefully designed learning materials, pre-school children can start managing foundational aspects of self-regulated learning (SRL) and begin taking responsibility for their own learning to varying degrees of sophistication and consistency. Numerous studies report that children with strong self-regulation in preschool and elementary school also score higher on measures of academic achievement in

early childhood and beyond (Diamond & Lee, 2011; McClelland, Acock & Morrison, 2006; McClelland *et al.*, 2014). Thus, early self-regulation predicts long-term academic achievement, such as high school and college completion (Breslau, Miller, Breslau, Bohnert, Lucia & Schweitzer, 2009; McClelland, Acock, Piccinin, Rhea & Stallings, 2013; McClelland *et al.*, 2014), and itself constitutes a critical component of academic success.

Bird (2009) suggests that much of the existing research also reports on difficulties. She observes that children younger than age 10 have difficulties coordinating the cognitive and metacognitive processes required to complete complex and multifaceted tasks. Perry and VandeKamp (2000) documented negative effects and non-persistence in the face of failure, attributions linking outcomes to ability rather than effort and low expectations for future success, in children aged 4 to 9 years. Additionally, Perry, Phillips & Dowler (2004) claim that “young children are protected from defensive motivational patterns that undermine self-regulated learning because they tend to view ability as incremental, rate their ability highly, and expect to do well so long as they exert effort” (p. 1855). Berhenke (2013) has since reported children’s difficulties in the development of self-regulation, mainly in five central aspects: routine (not following the routine), emotion regulation (negative emotionality and lability), focus and attention (lack thereof), impulsivity (lack thereof), positive behaviors (negative behaviors), and self-directedness (only a characteristic of high self-regulation). Thus, in agreement with Berhenke (2013), it is vital that teachers be appropriately trained to plan interventions focused on the development of self-regulation skills, instead of punishing and extinguishing young children’s behavior. Guiding teachers to understand how motivation and self-regulation correlate may also assist them in dealing with misbehavior and strategic learning more effectively in the classroom, especially in a CLIL environment.

2.4 Teaching and training methodology

Despite the considerable number of CLIL-based programs that have been launched in the past several decades (Edelenbos *et al.*, 2006; Marsh, 2012), few formal models or methodologies for implementing CLIL in the classroom have yet emerged. Rather, there are a multitude of possible models, corresponding to the needs and resources of different contexts (Coyle *et al.*, 2010; Mehisto *et al.*, 2008). In this sense, a practice-oriented research base for CLIL is itself still emerging (Dalton-Puffer & Smit, 2013), though the theoretical bases on which CLIL implementation rests are to a large extent those of wider general educational research.

For example, central to the implementation of CLIL with learners of any age is an understanding of how learners process information (McLaughlin, 1987), something that requires a great deal of intentional control. While this can seem like a challenge with YLs, repeated activation sequences help them automate and regularize information processing in a more unconscious way, supporting the restructuring of the learner’s linguistic system. As noted by McLaughlin, Rossman & McLeod (1983), incidental learning is what occurs when learners give peripheral (rather than focal) attention to some aspect of a task – which is

precisely the way that YLs learn grammatical and usage rule of their L1 through CLIL-like processes in their L1 school environment. The CLIL approach essentially seeks to support the extension of such acquisition to an L+. This does not deny the value of more traditional, system-oriented instruction (for example, on grammatical rules) where useful and appropriate (which it may be, especially with older children who have more advanced cognitive skills), but CLIL centers on using language *with* and *through* content, rather than treating language *as* content.

2.5 Teaching YLs with CLIL

When considering what kind of CLIL model to implement with YLs, it is particularly important to consider at which developmental stage (see Table 1 and 2.1.1 Characteristics of YLs) they are. Additionally, with specific regards to CLIL, Mehisto, Marsh & Frigols (2008: 12) propose five different areas that practitioners should consider: (i) grade-appropriate levels of academic achievement in subjects taught through the CLIL language; (ii) grade-appropriate functional proficiency in listening, speaking, reading and writing in the CLIL language; (iii) age-appropriate levels of first-language competence in listening, speaking, reading and writing; (iv) an understanding and appreciation of the cultures associated with the CLIL language and the student's first language; and (v) the cognitive and social skills and habits required for success in an ever-changing world.

At each stage of YLs' development, teachers need to be aware that different teaching strategies are required to ensure maximum success in the teaching and learning process. The following sections suggest some appropriate strategies for each stage.

2.5.1 Preschool (Sensorimotor 0–2 & Pre-operational 2–7)

At the infant and toddler stage(s) it is recommended that teachers focus on normal development, use repetition and imitation, stimulate senses and allow for play and manipulation of objects. As YLs progress and transition into the pre-operational stage (as preschoolers) teachers need to build trust, continue allowing them to manipulate objects, use positive reinforcement, encourage questions, provide simple drawings and stories, and stimulate the senses (Santrock, 2005).

While few formal models or methodologies for implementing CLIL with pre-school learners have yet emerged, as noted Coyle *et al.* (2010) have observed that CLIL for learners at this level would be similar in many respects to existing approaches for pre-school language learning. Given that these learners are focused mainly on *performing actions*, activities (such as playing, singing, drawing and building models) of their performance can be highly appropriate and effective. It should be noted that, at this level, teachers have a significant (perhaps unique) impact as role models for oral communication, and so teachers with a high degree of fluency (though not necessarily 'native-like' pronunciation characteristics) are required.

2.5.2 Primary (Concrete-operational 7–11)

While, again, few formal approaches for implementing CLIL with primary-level learners have yet emerged, Coyle *et al.* (2010) emphasize that a wide range of models are available (Eurydice Network, 2008; see further Eurydice, 2006; Marsh, 2012). While it is certainly possible, if appropriate, to teach whole content topics in the VL at this level if the learners have developed sufficient *Cognitive Academic Language Proficiency* (CALP) in the VL (Cummins, 2008), it is also possible to embed the VL alongside L1 in, for example, individual task-based learning instances. At this stage, it is very important that teachers encourage independence, use logical explanations and analogies, relate to the child's experience, use subject-centered focus, provide group activities, use drawings, models, dolls, action figures, painting, realia, CDs and videotapes (Santrock, 2005, 2013). However, perhaps the principal goal at this level should be increasing motivation towards language learning and building learner confidence about using the VL (and L1) in relevant content areas. If primary level learners have been prepared adequately, highly naturalistic learning of the VL – in a manner very similar to the way the L1 is being learned – is possible.

2.5.3 Secondary (Formal-operational 11–15)

It is advisable that teachers consider various aspects related to adolescents in order to connect a CLIL approach for YLs such as establishing trust, identifying control focus, using peers for support and influence, negotiating for change, contracting, focusing on details and making information meaningful (Nunan, 2011; Santrock, 2005, 2013). As with primary levels, there is a wide range of possible models for implementing CLIL with secondary learners (Coyle *et al.*, 2010), with the advantage that to date CLIL has probably been most widely utilized with secondary level students. In many cases, such learners tend to have not only more advanced cognitive skills, but have often already acquired some of the VL through traditional language classes in earlier levels, at least in terms of basic interpersonal communicative skills (BICS) (Cummins, 2008). Nevertheless, it is also possible to introduce the VL through CLIL at this level (though this may be more practical at earlier secondary levels). Moreover, learners at this level are likely already familiar with the kinds of ICT-based tools that can be used not just for accessing content-or language-related materials (although it is not unlikely that primary-level learners already are or are becoming familiar with such tools in many contexts) but for cross-border communication with other learners using the VL (either L1 or an L+). Such opportunities not only support highly authentic and realistic use of language within content areas, but also help prepare learners for the kinds of collaborative, communicative, and intercultural content-related work that an increasingly globalized workplace demands.

In terms of promoting self-regulated learning, all of these strategies could be implemented in the classroom, depending on the specific context, learning pace, needs, and background of students. However, with the success of self-regulatory practices much depends on the efficacy of the use of scaffolding strategies, which must be specially customized to cater for students' learning needs (Cuesta Medina, 2014). Additionally, teachers should be acquainted

with the necessary conditions to foster the emergence of self-regulated individuals in the language-learning classroom. Educators must be cognizant of the sub processes and actions associated with such development to better guide their students towards their academic achievement. One of the approaches we suggest is the gradual analysis and implementation of Bandura's self-regulation processes (1986): self-observation, self-judgment, and self-reaction. These are not mutually exclusive processes, but interact interdependently with the learning environment (Reynolds & Miller, 2003: 67). The integration of these phases suggest a practical continuum that can be exercised in learners of all ages, but since our aim in this chapter focuses on early age learning processes, we expect these principles to serve as the departure ground to map a pathway towards the development of self-regulatory competences in this type of learner.

2.6 Training teachers to use CLIL with YLs

In recent years, formal and informal CLIL-teacher training programs have been developed by universities, publishing houses, and private institutions. However, despite these initiatives, the meaning of CLIL remains a mystery for many teachers. Furthermore, very few programs on CLIL have been designed for pre-service teachers. In practice, the profiles of teachers that have been tasked with delivering CLIL programs vary considerably, not only between but also within countries. Thus, the area of CLIL-teacher training needs substantial strengthening and consolidation to ensure that professional educators are prepared to help their learners become highly skilled, plurilingual and pluricultural actors equipped for today's globalized world.

CLIL training programs may especially need to focus on preparing pre-service and in-service teachers with the tools needed to teach YLs. Implementing CLIL successfully requires practitioners (well supported by other stakeholders) with a good understanding of what the approach entails, the desired educational objectives, and the knowledge and competences to make the former produce the latter. More specifically, implementing CLIL requires teachers who are prepared to support learner acquisition of language through content learning, either through having a thorough understanding of both content and language teaching themselves or through being able to partner with other teachers who can effectively complement their specialties (Banegas, 2012a; Hillyard, 2011). However, neither case is terribly common within many educational paradigms, which were arguably created for a different age with different needs (Robinson, 2011), and which continue separating content and language teaching in a manner inappropriate to the demands of the still-emerging 21st-century globalized knowledge society. Neither have approaches and standards in teacher training in many parts of the world yet responded to the increasing calls from educational researchers for more highly trained teachers (Hujo, 2010; Sahlberg, 2010, 2014; Simola, 2005). For CLIL, there is an additional challenge here in that even highly trained language-teachers and highly trained content-teachers are not necessarily highly trained CLIL-teachers or teachers prepared to work collaboratively with peers to implement CLIL successfully (Coyle *et al.*, 2010; Edelenbos *et al.*, 2006).

3. Discussion

While numerous studies suggest that CLIL approaches can be highly effective, it remains unappreciated that neither CLIL nor any educational approach can be a ‘magic bullet’ (Coyle, 2010; Mehisto, 2008). Educational outcomes can never be more successful than the contexts that produce them – and, frankly, relatively few contexts are well prepared to deliver successful educational outcomes, let alone successful outcomes from such relatively unfamiliar and potentially complicated approaches as CLIL. Indeed there are documented cases of CLIL programs failing when teachers are insufficiently equipped with the needed language – and possibly content – teaching knowledge and competences (Gill, 2004, 2005, 2012; Sharif, 2013; Yassin, Marsh, Eng Tek & Ying Ying, 2009). Similarly, Kirkpatrick has sounded alarms about the drive to teach content in English to students who may still be struggling with a national language of instruction that is itself not their L1 (Kirkpatrick, 2010, 2012, 2014; Wang & Kirkpatrick, 2013).

It has long been recognized that requiring students to operate in academic environments with an insufficiently developed L2 and without recourse to their L1 degrades both the quantity and the quality of their learning (Baker, 2011; Cummins, 1984; Skutnabb-Kangas & Toukomaa, 1976). Although YLs *can* develop high-levels of competence in (and through) multiple languages, the factors that influence success in such outcomes are not always well understood (or controllable). This reality may stand behind observations such as Genesee’s (1987) that high exposure to an additional language (L+) at early primary levels can slow the acquisition of literacy skills in the L1, though learners starting the L+ at late-primary or secondary seem to avoid such impacts. Similarly, Nikolov (2001) found that adults who had to learn an L+ in primary school that was then used as the primary academic language in secondary school had less successful learning experiences, possibly because they were insufficiently prepared in the L+ and no longer had recourse to their L1. However, with specific reference to CLIL and YLs, Jäppinen (2005) noted that strong use of the pupils’ first language elsewhere in the curriculum was central to the success of the CLIL initiative. It is also important to remember that, given the deficiencies in many educational systems, many students in many parts of the world may not have a level of academic language proficiency in their L1 appropriate to the demands of the content learning they confront (Anderson, 2011; Cummins & Man Yee-fun, 2007; Cummins, 2008; Roessingh, 2006). In this sense, it is critical to remember that the CLIL acronym highlights the need for learning content and *language* – that is, all the learner’s languages, *including their L1*, and not merely *foreign* or *additional* languages.

4. Conclusion

In summary, CLIL can be powerful if implemented well, but CLIL is not necessarily easy to implement. It requires substantial preparation and planning, development of human and material resources, administrative/institutional/governmental support, and understanding and cooperation from other stakeholders (particularly learners and their families; see Aro & Mikkilä-Erdmann, 2014). It should probably be emphasized that unrealistically ambitious efforts risk failure. This is not to say that CLIL cannot be implemented without tremendous resources having been marshalled first; rather, in many cases, it may be wiser to begin with small-scale implementations, in which challenges can be identified and addressed with more agility, which can then be grown into larger implementations as additional resources may allow.

Much remains to be done with regards to refining the kinds of implementation models and teacher-training programs that are needed to help CLIL realize its potential as “an innovative form of education in response to the demands and expectations of the modern age” (Coyle *et al.*, 2010: 5). That this age increasingly expects communicative competence in multiple languages (for example, to facilitate access to, or dissemination of, knowledge) in order to make more effective and collaborative use of content knowledge in order to solve the ever more complex problems we confront seems clear. Arguably, we will know that CLIL has begun to achieve its potential when we stop talking about ‘CLIL’ as such – or ‘language teaching’, ‘content teaching’, or the competences required for self-regulated learning all as distinct concepts – and instead are simply talking about ‘good educational practices’.

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